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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/592,472	06/09/2000	Herschel Clement Burstyn	SAR 13774	7435

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EXAMINER

HOFFMAN, BRANDON S

ART UNIT PAPER NUMBER

2136

DATE MAILED: 05/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/592,472

Applicant(s)

BURSTYN ET AL.

Examiner

Brandon Hoffman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 April 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other:

DETAILED ACTION

1. Claims 1-20 are pending in this office action.

Rejections

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 103

3. Claims 1, 2-5, 10, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wrobleski (U.S. Patent No. 6,018,374) in view of Mead (U.S. Patent No. 5,680,454).

Regarding claim 1, Wrobleski teaches a method for distorting a recording of projected images, the recording having a frame frequency, the method comprising the steps of:

- Without varying the frame frequency of the projector, imposing an interference on the projected images at a frequency that renders the interference imperceptible to a human viewer (col. 2, lines 36-61),
 - Wherein a difference between the interference frequency and the recording frame frequency is perceptible to a human (col. 2, lines 62-65).

Wrobleski does not teach the interference is at a **frame rate** frequency, but rather at a frequency that renders the interference imperceptible (col. 2, lines 36-61). Similarly, Wrobleski does not teach the difference between the interference **frame rate** frequency and the recording frame frequency is perceptible, but rather at an interference frequency (col. 2, lines 62-65).

Mead teaches the interference is at a **frame rate** frequency that renders the interference imperceptible (fig. 1), wherein the difference between the interference **frame rate** frequency and the recording frame frequency is perceptible (col. 2, line 52 through col. 3, line 22).

It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to combine varying frame rate frequencies in order to distort a projected image, as taught by Mead, with the method of Wrobleski. It would have been obvious for such modifications because the varying frame rate distortion device of Mead can be swapped in place of the infrared projector of Wrobleski. Varying projection rates and displaying infrared images onto an already projected image are some of the disclosed ways to distort an image that is imperceptible to human viewers, but will be recorded by a camcorder.

Regarding claim 2, the combination of Wrobleski in view of Mead teaches wherein the step of imposing an interference includes the step of interrupting a projection of the projected images (see col. 2, lines 36-54 of Wrobleski).

Regarding claim 3, the combination of Wrobleski in view of Mead teaches wherein the interference is characterized by a plurality of parameters, comprising the further step of varying at least one of the parameters (see fig. 2, ref. num 30, 32, 34 of Mead).

Regarding claim 4, the combination of Wrobleski in view of Mead teaches wherein the step of varying at least one of the parameters includes the step of dynamically varying at least one of the parameters (see col. 3, lines 23-57 of Mead, any item can be changed during projection of the image).

Regarding claim 5, the combination of Wrobleski in view of Mead teaches wherein the at least one of the parameters is selected from the group comprising duty cycle, frequency, amplitude, presentation order and wavelength (see abstract of Mead, the frame rate is varied).

Regarding claim 10, the combination of Wrobleski in view of Mead teaches wherein the interfering element includes a light source operable to project an image (see fig. 1, ref. num 14 of Wrobleski).

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Regarding claim 11, Wrobleski teaches a method for operating a motion picture projector having a projector frame frequency, comprising the steps of:

- Without varying the projector frame frequency, determining a recording device frame frequency (the recording device frame frequency is set at 30 fps as is standard with camcorders and other recording devices)
- Blanking a projected image at a humanly imperceptible blanking frequency (col. 2, lines 36-61),
 - Wherein a difference between the frame frequency and the blanking frequency is a humanly perceptible frame frequency (col. 2, lines 62-65).

Wrobleski does not teach the blanking is at a **frame rate** frequency, but rather at a frequency that renders the interference imperceptible (col. 2, lines 36-61). Similarly, Wrobleski does not teach the difference between the blanking **frame rate** frequency and the recording frame frequency is perceptible, but rather at a blanking frequency (col. 2, lines 62-65).

Mead teaches the blanking is at a **frame rate** frequency that renders the interference imperceptible (fig. 1), wherein the difference between the blanking **frame rate** frequency and the recording frame frequency is perceptible (col. 2, line 52 through col. 3, line 22).

It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to combine varying frame rate frequencies in order to blank a projected image, as taught by Mead, with the method of Wrobleski. It would have been obvious for such modifications because the varying frame rate distortion device of Mead can be swapped in place of the infrared projector of Wrobleski. Varying projection rates and displaying infrared images onto an already projected image are some of the disclosed ways to distort an image that is imperceptible to human viewers, but will be recorded by a camcorder.

Claims 7, 8, 12-15, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wrobleski (USPN '374) in view of Mead (USPN '454), and further in view of Sato (U.S. Patent No. 6,041,158).

Regarding claim 7, the combination Wrobleski in view of Mead teaches all the limitations of claim 1, above. However, the combination of Wrobleski in view of Mead does not teach separating the projected images into a plurality of colors, wherein the imposing step includes the further step of modulating at least one of the plurality of colors.

Sato teaches separating the projected images into a plurality of colors (col. 6, lines 5-8), wherein the imposing step includes the further step of modulating at least one of the plurality of colors (fig. 4, ref. num 4).

It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to combine separating the image into a plurality of colors and modulating at least one color, as taught by Sato, with the method of Wrobleski/Mead. It would have been obvious for such modifications because the modulated color prevents copying of the video signal (see col. 7, lines 16-32 of Sato).

Regarding claim 8, the combination of Wrobleski in view of Mead/Sato teaches wherein the step of modulating the at least one color includes changing a time relationship of the at least one color with respect to at least one other of the plurality of colors (see col. 5, lines 8-18 of Sato).

Regarding claim 12, Wrobleski teaches a projection system for distorting a recording of projected images, the recording having a frame frequency, the system comprising:

- An interfering element (fig. 1, ref. num 14); and
- A controller coupled to the interfering element (col. 2, lines 45-49),
 - Wherein the controller, without varying the projected image frame frequency, causes the interfering element to impose an alteration on the projected images (col. 2, lines 36-61) and
 - Wherein a playback of a recording of the projected images displays humanly perceptible alterations (col. 2, lines 62-65).

Wrobleski does not teach the interference is at a **frame rate** frequency that is imperceptible to a human viewer, but instead the interference is at a frequency that is imperceptible to a human viewer (col. 2, lines 36-61).

Mead teaches the interference is **at a humanly imperceptible frame rate** (fig. 1 and col. 2, line 52 through col. 3, line 22).

It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to combine varying frame rate frequencies in order to distort a projected image, as taught by Mead, with the method of Wrobleski. It would have been obvious for such modifications because the varying frame rate distortion device of Mead can be swapped in place of the infrared projector of Wrobleski. Varying projection rates and displaying infrared images onto an already projected image are some of the disclosed ways to distort an image that is imperceptible to human viewers, but will be recorded by a camcorder.

The combination of Wrobleski in view of Mead still does not teach the interfering element includes a color separator for separating image data into a plurality of colors.

Sato teaches the interfering element includes a color separator for separating image data into a plurality of colors (col. 6, lines 5-8).

It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to combine separating image data into a plurality of colors, as taught by Sato, with the method of Wrobleski/Mead. It would have been obvious for such modifications because the separated colors are then modulated to prevent copying of the video signals (see col. 7, lines 16-32 of Sato).

Regarding claim 13, the combination of Wrobleski as modified by Mead/Sato teaches wherein the interfering element includes one selected from the group comprising a shutter, a filter, a light valve and a lens (the Examiner believes it to be inherent that the projection apparatus contains a shutter).

Regarding claim 14, the combination of Wrobleski as modified by Mead/Sato teaches wherein the controller is further operable to cause the interfering element to vary a plurality of parameters (see col. 6, lines 25-41 of Sato), the interfering element including:

- A separator responsive to image data and operable to separate the image data into a plurality of colors (see fig. 4, ref. num 1 of Sato); and
- A color modulator responsive to the controller and operable to adjust at least one of the plurality of parameters for at least one of the colors (see fig. 4, ref. num 4 of Sato);
- The system further comprising a combiner coupled to the interfering element and operable to combine the image data for projection (see fig. 4, ref. num 5 of Sato).

Regarding claim 15, the combination of Wrobleski in view of Mead/Sato teaches wherein the at least one of the parameters includes one parameter selected from the group comprising duty cycle, frequency, amplitude, brightness, intensity, presentation order and wavelength (see col. 6, lines 25-41 of Sato).

Regarding claim 18, the combination of Wrobleski in view of Mead/Sato teaches wherein the interfering element includes a light source operable to project an image (see fig. 1, ref. num 14 of Wrobleski).

Claims 6, 9, 16, 17, 19, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wrobleski (USPN '374) in view of Mead (USPN '454) and Sato (USPN '158), and further in view of Kahn (U.S. Patent No. 5,394,274).

Regarding claims 6, 9, 16, 17, 19, and 20, the combination of Wrobleski in view of Mead/Sato teach all the limitations of claims 1-5, 7, 8, 10-15, and 18, above. However, the combination of Wrobleski in view of Mead/Sato does not teach the specifics as detailed in the following claims. These claims perform steps that alter the colors of the projected image in a way that is imperceptible to the human eye, but is perceptible to a video recording device, therefore distorting the illegally recorded video to prevent usurpers from making profit from selling the illegal videos. Kahn teaches preventing copying of data by imposing inaudible noises into the data that would be picked up by a recorder, but not the human ear. Similarly, Kahn refers to

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documentation (col. 5, lines 16-23) that studies the physiological differences of the human senses. This information lends to the suggestion of modifying the data in any method that would be recognized by a recording device, but not by the human senses. Rhoads (U.S. Patent No. 6,122,403) suggests modulating the data in imperceptible ways to provide a watermark (col. 31, lines 20-37, col. 58, lines 34-60, and col. 68, lines 52-67).

Regarding claim 6, the combination of Wrobleski/Mead/Sato in view of Kahn teaches wherein the imposing step includes the steps of: scanning a white light strip; separating the white light strip into color light strips; separating spatial entities into component colors; and modulating the component colors of the spatial entities over a color light strip.

Regarding claim 9, the combination of Wrobleski/Mead/Sato in view of Kahn teaches wherein the step of modulating the at least one color includes blanking the at least one color for an interval.

Regarding claim 16, the combination of Wrobleski/Mead/Sato in view of Kahn teaches wherein the interfering element further includes: a light source operable to provide a light strip; a color separator operable to separate the light strip into colors light strips; a scanner for scanning the color light strips over a frame, wherein the color modulator varies the parameters over the color light strips.

Regarding claim 17, the combination of Wrobleski/Mead/Sato in view of Kahn teaches wherein the modulator varies a projection rate of the color light strips over the frame.

Regarding claim 19, the combination of Wrobleski/Mead/Sato in view of Kahn teaches: a detector for determining spatial entities for color modulation, the interfering element including: a color separator for color separating the white light and the spatial entities for color modulation into component colors; a time multiplexer for varying parameters of the component colors of the spatial entities for color modulation; a processor for defining an order of coarse bits and of fine bits for at least one of the component colors of the spatial entities for color modulation; a modulator for modulating the white light component colors and the component colors of the spatial entities for color modulation, the modulator providing modulated component colors; and a combiner for combining the modulated component colors.

Regarding claim 20, the combination of Wrobleski/Mead/Sato in view of Kahn teaches wherein the detector determines frame-linked spatial entities, the separator operable to separate the frame-linked spatial entities into component colors, and the modulator operable to modulate the component colors of the frame-linked spatial entities.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brandon Hoffman whose telephone number is 571-272-3863. The examiner can normally be reached on M-F 8:30 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ayaz Sheikh can be reached on 571-272-3795. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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